

# **Radiological Control Technician Training**

## **Oral Examination Boards Phase III**



**Coordinated and Conducted  
for  
Office of Environment, Safety & Health  
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## Introduction

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### **Purpose of Oral Examinations**

An oral examination board (OEB) should determine the qualification of candidates for Radiological Control Technician (RCT) and for RCT Supervisor.

The OEB provides an opportunity to identify areas of weakness related to performance of RCT duties and Supervisor functions. The OEB also provides the opportunity to identify additional training needs to enhance RCT and Supervisor training programs.

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### **Scope**

This document provides the methods and guidelines for the implementation of OEBs as indicated in DOE's Radiological Control Standard (RCS) and the RCT Training Program Management Guide (Part 1 of 9).

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*Participation in Oral Exam Boards Next*

## **Participation in Oral Examination Boards**

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### **Board Membership**

1. The Radiological Control Manager, or designee, should designate members for each board, and appoint a chairperson for each board
2. Board members should have equal or greater knowledge than the candidate.
3. The Radiological Control Manager, or designee, should maintain a list of approved board members.

### **Personnel Requirements**

1. The OEB should consist of at least three persons. Board members should include, as applicable:
  - a. RCT Supervision/Management
  - b. Radiological Control staff
  - c. Line management, operations department supervisors, and staff personnel
2. Board members should not be direct supervisors or peers of the candidates. However, if no alternative can be found, a direct supervisor may participate on a candidate's board but should not be the chairperson.
3. RCT Instructors may participate as nonvoting members.
  - a. An instructor may advise the chairperson on the legitimacy of questions asked by OEB members. This will help to ensure that the information being requested of the candidate by the board members was covered during the academic and practical phases of RCT training.
  - b. An instructor should not attempt to influence the scoring of the OEB.
4. No more than one board member from any OEB should participate in a reboard. This reboard member should not act as the chairperson.

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**Participation in Oral Examination Boards (continued)**

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**Personnel Requirements  
(continued)**

5. Membership for practice boards need not comply with the board membership requirements of a qualification OEB.
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**Training of Oral Board  
Members**

1. All board members should receive training on the OEB process prior to an assignment as a voting OEB member.
  2. This document, as well as site-specific procedures, should be used as the basis for the training of OEB members. At a minimum this training, should address the following:
    - a. scoring of candidate responses
    - b. OEB procedures
    - c. OEB invalidation
  3. Practical training is recommended for each perspective OEB member. This should consist of participating on a practice OEB or observing a qualification OEB.
  4. All training of OEB members should be documented and maintained per Chapter 7 of the RCS.
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**Training of Candidates for  
RCT and Supervisor  
Qualification**

1. Candidates for RCT and Supervisor qualification should complete Phases 1 and 2 of the training program prior to receiving an oral examination.
  2. Site training programs should include training on the OEB process. The purpose, requirements and expectations of the OEB should be presented to the candidate as part of the training program. Candidates should be taught the appropriate behaviors and attitudes expected during an oral examination.
  3. Practice OEBs may be used as part of the training of candidates for qualification.
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*Oral Examination Board Procedures Next*

## Oral Examination Board Procedures

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### Scenarios

1. Oral examinations should be scenario-based. Scenarios should consist of typical work evolutions, tasks, situations, and anomalies. Examples of anomalies are radiological equipment failure, alarming instruments, changing radiological conditions, and situations requiring emergency response.
2. Oral examination board scenarios should be approved by the Radiological Control Manager or designee.
3. Sites should validate the scenario response guidelines prior to their use on oral examination boards.
4. Scenarios should be maintained by the Radiological Control Manager, or designee. Scenarios should be reviewed at least annually and should be updated as changes occur in site procedures and the site radiological control program.
6. The oral examination bank should include a record of when a scenario was used, the anomaly or anomalies selected, and the OEB result. The number of scenarios and associated anomalies in the bank should be sufficient so that scenarios or the anomalies selected will differ between consecutive oral examination boards.

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### Convening Oral Examination Boards

1. An initial qualification oral examination board is convened after successful completion of a final comprehensive written examination.
2. A requalification OEB should not be convened before eighteen (18) months after a previous and no later than twenty four (24) months after a previous OEB.
3. OEBs are convened by the board chairperson as assigned by the Radiological Control Manager or designee.

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**Oral Examination Board Procedures (continued)**

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**Oral Board Chairperson**

1. The chairperson is responsible for implementing the requirements and procedures for the assigned OEB.
  2. The chairperson should:
    - a. review the scenarios with the other board members prior to the start of the OEB.
    - b. for each scenario, describe to the candidate the work area and the situation to be handled, and the duties and the role being performed in association with the work in progress or the situation as it develops.
    - c. ensure that the candidate is presented with sufficient radiological data encountered as the scenario progresses, based on the candidate's questions. Data for field surveys should be reported in units appropriate to the field survey instrument.
- 

**Facilities, Aids and Reference Materials**

1. The board should be held in an area in which no distractions are expected to occur.
  2. Suggested aids are:
    - a. material for the candidate to organize the information, i.e. notepad, white board, chalkboard, etc.
    - b. calculators, pens, and paper.
  3. Reference material should include:
    - a. site specific procedures and manuals.
    - b. pertinent federal documents, i.e., 10 CFR 835, RCS, 49 CFR.
    - c. references approved by the Radiological Control Manager, or designee, e.g. Chart of the Nuclides, Rad. Health Handbook.
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**Oral Examination Board Procedures (continued)**

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**Scoring**

1. Candidate responses should be evaluated and documented independently by all examiners. A suggested OEB Record (Attachment A) and OEB Grading Form (Attachment B) have been included.
2. Each OEB member is encouraged to keep notes during the oral examination. This will assist the board member in evaluating the oral examination.
3. At the completion of the oral examination board, an overall evaluation of satisfactory or unsatisfactory should be given. The evaluation criteria for satisfactory or unsatisfactory is listed below.
  - a. Satisfactory: means that the candidate:
    - understands the scenario.
    - correctly identified the problem.
    - implemented immediate actions in a timely manner and established correct priority for critical emergency procedures.
    - requested/evaluated important additional information to assess and control the situation and correctly implemented supplementary actions.
    - answered a majority of secondary questions correctly, showed a logical thought process in arriving at the answer and gave supporting information.
    - ensured that key issues and data were included in the final analysis.
    - made the situation progressively better.
    - demonstrated very few weaknesses of which none were significant.
    - performed to at least the minimum standard set by the procedures of the site.
  - b. Unsatisfactory: means that the candidate:

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## Oral Examination Board Procedures (continued)

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### Scoring (continued)

- does not have an understanding of the scenario.
  - answered a few questions correctly, but did not show a logical thought process in arriving at the answer and often gave incorrect or no supporting information.
  - did not correctly identify the emergency or problem and did not implement immediate actions in a timely manner.
  - did not establish the correct priority for critical emergency procedures and did not request or evaluate important additional measurements to assess and control the situation.
  - did not include key issues and data in the final analysis.
  - made the situation progressively worse as a result of the candidate's actions.
  - demonstrated numerous significant weaknesses.
  - did not perform to the minimum standard set by the procedures of the site.
- 

### Invalidation

1. It is the responsibility of the board chairperson to ensure a fair and equitable board takes place. If the chairperson feels this has not happened, the chairperson may invalidate the board. Some reasons for invalidation may include but are not limited to:
    - a. board members asking questions not specifically related to the candidate's job assignment,
    - b. an excessive, or lengthy interruption of the board due to some external circumstance,
    - c. insufficient required references for the candidate to use during the board such that an unsatisfactory evaluation resulted.
  2. If the chairperson declares a board invalid for any reason, the results of the board are declared void, and no record of
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**Oral Examination Board Procedures (continued)**

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**Invalidation (continued)**

the OEB performance is recorded, except that the OEB scenario record should reflect use of the scenario.

3. The board chairperson must make a determination, on a case-by-case basis if factors beyond the candidates control caused an unsatisfactory grade in any area of the board or the board overall. If this is the case, the board should be invalidated.
- 

**Failures**

1. Candidates who fail an oral examination board should complete a formal remediation in the areas of a noted weakness or weaknesses.
  2. Each site is responsible for developing and documenting a RCT OEB Remediation program.
  3. This program should be developed by Radiological Control Manager or designee and presented to the candidate.
  4. As a minimum, the remediation program should include:
    - a. a review of weaknesses noted by the oral examination board members,
    - b. counseling by the training department to determine the depth and nature of the weaknesses, and appropriate action based on the counseling,
    - c. any retraining or self-study considered necessary to upgrade the areas of weakness,
    - d. satisfactory completion of a practice oral examination(s) administered by the appropriate personnel as determined by each site.
  5. A candidate who fails a third OEB should be considered for disenrollment from the RCT program.
  6. Each site should develop procedures for OEB failures.
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**Oral Examination Board Procedures (continued)**

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**Reboards**

1. A reboard is conducted when a candidate receives an unsatisfactory overall grade on a OEB. If a reboard is required, another board should be scheduled within five days of completion of the remedial training.
  2. A candidate who fails a second OEB should be handled the same as the first failure. Prior to receiving a third OEB, an interview with the Radiological Control Manager should be conducted to discuss applicant status and to determine applicant continuation.
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**Requalification**

OEBs for requalification should follow the same procedures as those for initial qualification.

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*Candidate Boards Next*

**Candidate Boards**

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**Conduct of Candidate Boards**

1. The time required for a candidate's OEB should be based on the scenarios, and should last approximately one hour.
2. All pagers, radios, phones and other communication devices should be turned off to minimize distractions during the board. Certain board members may hold critical positions in an emergency situation. Those members should leave word with their staff as to when they should be interrupted in a board.
3. After the candidate is brought into the room, the chairperson should introduce the candidate and the board members and briefly explain the OEB process. The chairperson should then introduce each scenario.
4. The candidate should be able to:
  - a. evaluate the initial conditions. This may include calculations and determination of the magnitude of the problem presented.
  - b. assess the status of the situation.
  - c. identify any abnormalities.
  - d. explain the radiological consequences of the situation at hand.
  - e. determine an appropriate course of action.
  - f. explain the radiological consequences of his/her actions.
5. After the scenario has been terminated, the candidate should leave the room while the board members evaluate the candidate's performance.
6. The board members should:

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**Candidate Boards (continued)**

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**Conduct of Candidate Boards (continued)**

- a. discuss board member questions concerning any point of fact of the scenario. This is intended to prevent erroneous grading by a single board member who did not understand specific responses or requirements of the scenario. Care should be taken not to influence the score of another board member.
  - b. independently compile any comments, weaknesses noted, and assign a grade for the OEB on the OEB Grading Form (Attachment B). Once the grade has been assigned, it should not be changed unless a board member discovers he or she has made an error. The grade change and the error should be documented on the OEB Record (Attachment A).
  - c. record on the OEB Record (Attachment A). If a majority of the OEB members have assigned a satisfactory grade, the overall grade is satisfactory. If a majority of the OEB members have assigned an unsatisfactory grade, the overall grade is unsatisfactory.
- 7. Board results should be reviewed with the candidate by board members for the OEB to be completed.
  - 8. The candidate and the chairperson should sign the OEB Record. Records of the board results should be filed in the candidate's training record.
- 

**RCT Supervisor Boards**

- 1. Prior to receiving a supervisor OEB the candidate should have the depth of knowledge identified by site-specific training documents.
  - 2. The supervisor OEB should be based on the expected responsibilities of the supervisor candidate as defined by the site.
  - 3. The supervisor OEB should follow the steps set forth in the RCT OEB.
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*References Next*

## **References**

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"Radiological Control Standard," DOE-STD-1098-99

"Radiological Control Technician, Program Management Guide"

G441.1 (1999) "Management and Administration of Radiation Protection Program Guide"

**ATTACHMENT A  
ORAL EXAMINATION BOARD RECORD**

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Candidate Name: \_\_\_\_\_

ID No.: \_\_\_\_\_

Job Title: \_\_\_\_\_

Board Date: \_\_\_\_\_

Chairperson:

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Signature)

Board Members:

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Signature)

Final Grade: **G** Satisfactory    **G** Unsatisfactory

---

Chairperson Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Candidate:

I have had the opportunity to review the board members' grading forms and have been given the opportunity to provide written comments.

\_\_\_\_\_  
(Candidate Signature)

\_\_\_\_\_  
(Date)

Candidate Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# ATTACHMENT B ORAL EXAMINATION GRADING FORM

Candidate: \_\_\_\_\_  
(Printed Name)

ID No.: \_\_\_\_\_

Board Member: \_\_\_\_\_  
(Printed Name)

Board Date: \_\_\_\_\_

<b>Scenario/question:</b> _____ (If standard question from exam bank, note the identifying number.) _____ _____ _____ _____ _____ _____ _____			
Critical Elements	Sat.	Unsat.	Comments: (Strengths/Weaknesses/Observations)
Initial control of the situation			
Identifies the problem			
Initiates appropriate responses			
Notifies appropriate personnel			
Identifies needed resources and effectively applies to the problem			
Initiates supplementary actions accordingly			
Final analysis is clear and concisely states key issues and data. Includes correct assessment of the problem			
The situation is made progressively and systematically better by the candidate's actions			
Proper turnover was initiated			

Overall Grade (check one): **G** Satisfactory    **G** Unsatisfactory

Action Items:

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Board Member: \_\_\_\_\_  
(Signature)